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ABSTRACT

This report, the first in a series on student financial aid, develops a public policy justification for needs-tested higher educational subsidies targeted specifically to students, and offers evidence to support the argument that financial aid is a worthwhile use of public monies. Traditionally, public subsidies for students have been directed to institutions; in the mid-1960s, however, federal and state governments began to subsidize higher education of students directly via needs-tested grants and other forms of aid. Currently more than $20 billion is spend on student aid. Five sections look at: student demand for higher education; differences in abilities to pay college costs; the effect of price on student enrollment decisions (discussing student enrollment responses to price and to financial aid); the public policy commitment to equalize higher educational opportunity (discussing federal and state commitments); and society's interest in improving educational opportunity (discussing labor force renewal and preservation of social peace through hope). It is concluded that higher education is essential to current and future prosperity of both individuals and the larger society. Signals from the labor market indicate a current oversupply of workers with less than a college education and an undersupply of workers with college degrees. Today, student financial aid addresses simultaneously two social issues: (1) the fulfilling of the aspirations of citizens wishing to climb the ladder of opportunity and (2) the enormous human capitalization requirements of the evolving world economy and the role of the United States in that system. Contains 16 references. (SM)

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ACT Student Financial Aid
Research Report Series 87-1

Why Student Financial Aid?

Thomas G. Mortenson

December 1987

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WHY STUDENT FINANCIAL AID?

Thomas G. Mortenson

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ABSTRACT

This paper develops the public policy justification for needs-tested higher educational subsidies targeted specifically to students. Traditionally, public subsidies for students have been directed to institutions. However, in the mid-1960s federal and state governments began to subsidize the higher education of students directly through needs-tested grants and other forms of aid. Currently more than $20 billion is spent on student aid. This paper describes student demand for higher education, illustrates differential abilities of families to finance college attendance costs, summarizes econometric studies of price and aid impacts on student enrollment behavior, reviews the history of federal and state commitments to student aid programs, and concludes by identifying two public interest motives for support of student aid programs.

WHY STUDENT FINANCIAL AID?

Thomas G. Mortenson

Introduction

Why do we spend more than $20 billion on student financial aid each year in the United States (College Board, 1987)? For that matter, what is financial aid? Do students and their families need this aid to attend college? What interest does society have in providing financial aid to students? Where has this commitment come from?

We actually spend a great deal more than $20 billion per year to educate students in our colleges and universities. The larger public investment occurs through direct institutional subsidies. These subsidies reduce the price paid by students to a fraction of the total costs of education. The data on higher educational finance for 1984-85 indicate that about $61.9 billion was spent by higher educational institutions on student education. This includes expenditures for instruction, libraries and other academic support, student services, institutional overhead, and physical plant operations and maintenance. However, only $21.3 billion of the total educational expenditure was covered by tuition revenues. The remaining $40.6 billion, or 66% of the expenditure, was also student financial assistance. Taxpayers, donors and others paid these educational costs for students. The percentage of costs of education covered by tuition revenues in 1984-85 averaged 21% in public institutions and 61% in private institutions. The remaining 79% in public institutions and 39% in private institutions was a form of financial assistance to students not as apparent as charges for tuition, books, food, housing, and transportation that must be paid out of pocket (National Center for Education Statistics).

This paper explains why some portion of our annual investment in the higher education of young people is allocated to students directly through financial aid programs rather than through the traditional institutional subsidies. The public policy approach taken here is primarily economic: that is, this paper examines the issue of public resource allocation to achieve higher educational enrollment objectives efficiently, effectively, and equitably.

The thesis of this paper--that financial aid is important to both students and society--is developed in five parts. First, the economic theory of student demand for higher education is presented. Second, the costs of higher education are related to student and family ability to finance them. Third, the results of empirical studies on impact of price on student enrollment behavior are summarized. Fourth, federal and state policies that address the effects of price on student enrollment behavior are described. Finally, two public interest rationales for student financial aid--one economic and the other social--are offered.

Student Demand for Higher Education

Economists view higher educational enrollments as the result of the intersecting curves of student demand and higher educational capacity. That is, the enrollment of students--for the country, for a state, for an institution, for a program, or even for a specific course--is the combined result of student interest and ability to enroll and the supply of enrollment

spaces provided in colleges. Observed enrollment numbers cannot exceed the limiting factor in this demand/capacity relationship.

The capacity of higher education to accommodate student enrollments has expanded greatly since World War II, particularly through state construction of higher educational facilities and increased appropriations for the delivery of educational services. During the past 35 years, the number of public higher educational institutions has increased from 641 to 1,329, and the number of private institutions from 1,210 to 1,817. During this same period, educational and general expenditures of these institutions increased from $1.7 billion to $72.3 billion. Higher education enrollments, reflecting the growth in student demand and higher educational capacity of institutions, increased from 2.7 million to over 12 million during the same period (Grant & Snyder, 1986).

This growth in enrollments is driven by student demand for higher education. The economic investment theory of student demand for collegiate education holds that the prospective college student will enroll in higher education if the present value of the future benefits resulting from college education, plus current consumption benefits, exceeds the present value of the costs faced by the individual compared to possible alternative investments. In essence, an individual will attempt to enroll in college if he or she expects a favorable return on the investment.

The Cooperative Institutional Research Program (CIRP) survey of college freshmen provides a useful test of the economic theory of student demand for higher education. The CIRP survey has been conducted nationally for more than two decades to gather data on first time, full time American college freshmen. The surveys report on the reasons college freshmen give for their decision to attend college. Table 1 compares the main reasons given for attending college by freshmen in 1976 and 1986 (Astin, et al., 1976, 1986).

TABLE 1

Reasons Given by College Freshmen for Attending College 1976-1986

1986 Rank	Reasons for Attending College	Percent Very Important 1976	1986	Change 76-86
1.	Get a better job	71.0%	83.1%	+12.1%
2.	Learn more about things	72.9	74.1	+ 1.2
3.	Make more money	53.8	70.6	+16.8
4.	Gain general education	64.0	61.6	- 2.4
5.	Prepare for graduate school	43.9	47.1	+ 3.2
6.	Improve reading/study skills	35.1	40.3	+ 5.2
7.	Become more cultured person	32.8	32.2	- .6

During the last ten years, most reasons for attending college appear to have changed little in relative importance. However, the two reasons most clearly related to the economic value of college--"make more money" and "get a better job"--stand out by the large increases in their importance relative to the other factors. In general, the responses provided by students in the CIRP survey support the economic theory of student demand for higher education.

In an important sense, these college students appear to reflect labor market conditions. Since World War II the dollar return on a college investment has been very favorable relative to lesser educational attainment levels. In particular, the return has improved greatly during the 1980s. As Table 2 shows, real incomes for families headed by people who have attended college are increasing while incomes of families headed by persons with lesser educational attainment are declining (Census Bureau, annual).

TABLE 2

Median Family Income by Educational Attainment of Family Head (Constant 1986 Dollars)

Educational Attainment	Median Family Income 1956	1975	1980	1986	Change 80-86
Less Than 8 Years Elementary	$12,315	$15,126	$14,410	$14,101	- 2.1%
8 Years Elementary	17,056	20,218	18,770	18,515	- 1.4
1 to 3 Years High School	19,480	23,322	21,547	20,119	- 6.6
4 Years High School	22,004	29,998	29,049	28,716	- 1.1
1 to 3 Years College	23,972	33,766	33,066	34,205	+ 3.4
4 Years College	DNA	42,033	41,035	45,603	+11.1
5 Years or More College	DNA	47,189	46,197	52,670	+14.0

Differences in Abilities to Pay College Costs

To obtain the benefits of higher education, students incur costs. These costs are of three types: direct, indirect, and opportunity. Direct costs are those expenses that occur only through college attendance, such as tuition, fees, books and supplies. Indirect costs are living costs while in college; these include food, housing, transportation, and personal and medical care. Opportunity costs are the costs associated with the alternative use of one's resources, such as income forgone while attending college, and other uses of one's money, such as better housing or a newer car. Risk is an additional consideration the student faces: what are his or her chances of gaining the future rewards of a college education while these various costs are accumulating?

This section examines the issue of direct and indirect costs that students must deal with in attending college. For the following discussion, the basis for determining a student's need for financial aid is:

College Budget:	Tuition and fees
	+ Books and Supplies
	+ Living expenses while attending college
Family Contribution:	- Parent's contribution
	- Student's contribution
	= Financial need

Note that in student financial aid only the costs tied to direct and indirect college attendance are considered in evaluating student need. Neither risk nor opportunity costs of college attendance are ordinarily addressed through financial aid, despite their obvious implications for student enrollment behavior and student aid program costs (e.g., loan defaults).

Data on college budgets, supplied by colleges and universities participating in ACT's Student Need Analysis Services, provide useful average cost measures for students attending different types of public and private institutions. These data for 1986-87 are shown in Table 3 (ACT).

TABLE 3

National Average College Budgets by Level and Control of Institution and Dependent/Independent Student Status 1986-87

Average College Budgets	Public 2-Year D	Public 2-Year I	Public 4-Year D	Public 4-Year I	Private 4-Year D	Private 4-Year I
Tuition and Fees	$ 716	$ 716	$ 1298	$ 1298	$ 4928	$ 4928
Books and Supplies	338	338	354	354	349	349
Direct Costs	1054	1054	1652	1652	5277	5277
Living Costs	2781	4315	3406	4300	3456	4139
Total Costs	$ 3835	$ 5369	$ 5058	$ 5952	$ 8733	$ 9416

(D = Dependent; I = Independent)

The variation in tuition and fee direct costs is attributable to control and level of institution, while the variation in living costs is attributable to where the student lives.

Students and their families differ in their abilities to finance the direct and indirect costs incurred by attending college. This variable ability is largely related to family income: families may use savings from prior income, make payments from current income, or they may borrow against future income. But family ability to finance college is also related to age of parents, assets, family size, number of children enrolled in college, and other demands on family resources.

The Uniform Methodology (UM) provides a widely used guideline for determining a standardized expectation for each family to contribute toward their student's direct and indirect college attendance costs. This formula considers many family circumstances, including income and assets, size and number of children enrolled in college. The UM produces a standardized expectation for each family to contribute a certain dollar amount toward the education of their son or daughter based on their particular set of circumstances.

Until recently, the student and his or her family could choose to finance this Uniform Methodology family contribution expectation out of current, past or future income. The reduced financial aid resources available to finance need since 1980, however, have altered this picture. Now, under the new Congressional Methodology (CM) effective for the 1988-89 academic/award year, Guaranteed Student Loans (GSL) will be used in addition to and not as a substitute for the expected family contribution. Students and families that still need to borrow to meet the expected family contribution will face higher borrowing costs through more expensive Supplemental Loans for Students (SLS) and Parent Loans for Undergraduate Students (PLUS).

The data in Table 4 illustrate the relationship between family income and average expected parental, student, and family contribution that resulted from application of the Uniform Methodology to financial aid applicants in 1986-87. The table was prepared for the U.S. Department of Education from an analysis of a random sample of 78,000 dependent undergraduate ACT financial aid filers for that year (ACT, 1986).

TABLE 4

Parent's Income and Expected Family Contributions
Under the Uniform Methodology of Needs Analysis
1986-87 Dependent Undergraduate ACT Filers

Parents' Income*	Mean Expected Contribution Parent	Student**	Family
$0-2,999	$ 183	$ 928	$1,111
$3,000-5,999	87	917	1,004
$6,000-8,999	50	912	962
$9,000-11,999	152	906	1,058
$12,000-14,999	240	893	1,133
$15,000-17,999	401	903	1,304
$18,000-20,999	679	901	1,580
$21,000-23,999	1,028	892	1,920
$24,000-26,999	1,409	904	2,313
$27,000-29,999	1,879	902	2,799
$30,000-32,999	2,353	914	3,267
$33,000-35,999	2,969	924	3,893
$36,000-38,999	3,667	940	4,607
$39,000-41,999	4,334	952	5,286
$42,000-44,999	4,985	1,026	6,011
$45,000 & over	8,754	1,116	9,870

* Taxable and nontaxable income.
** Student's contribution includes $700 to $900 expectation from summer savings, whether earned or not.

The ACT data on college costs and family contributions may be usefully combined to illustrate through what family income levels financial aid is important. Table 5 shows the family income levels required to finance direct and indirect college costs through Uniform Methodology expected family contributions (ACT, 1986; Census Bureau annual). Table 5 also shows the proportion of American families with children under 18 in 1985 with sufficient family income to finance these costs out of current cash flow based on the Uniform Methodology's expected contribution.

Census Bureau surveys of family income for families with school age children provide a useful measure of the proportion of children that would require financial aid to finance the college costs shown in Table 3. Using 1984 family income data, about 71% of all children would require financial aid to be able to attend a public 2-year college--the least costly option. Seventy-nine percent of all children would require aid to attend a public university. Ninety-two percent would require financial aid to attend an average cost private 4-year college.

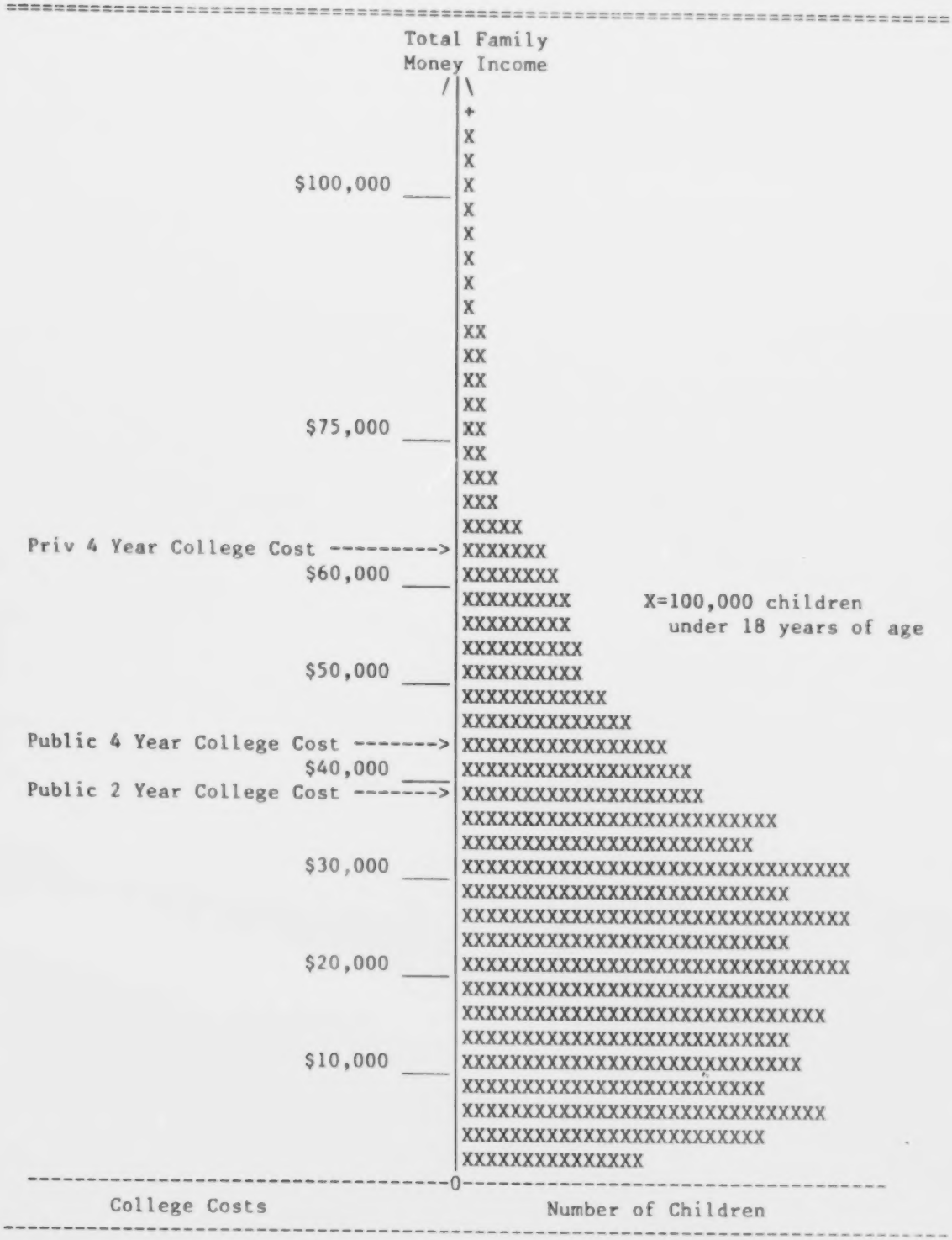
TABLE 5
Average Family Incomes Required to Finance
Average Dependent Undergraduate College Budgets by Institutional Type
1985-86

	Public 2-Year	Public 4-Year	Private 4-Year
Average College Budgets	$3,835	$5,058	$8,733
Required Family Contribution	$3,835	$5,058	$8,733
Corresponding Parental Income	$38,500	$45,000	$64,500
Percent of Families That Earn This Much or More That Have Children	29%	21%	8%

Table 6 offers another illustration of the distribution of children in families by family income (ACT, 1986; and Census Bureau, annual). This table shows the number of children age 0 to 17 who live in families that will require financial aid to be able to pay direct and indirect college attendance costs.

TABLE 6

Distribution of Children by Family Income Compared to Family Income Required to Finance College Budgets 1986-87 College Budgets, 1985 Family Incomes



The Effect of Price on Student Enrollment Decisions

The effects of price on college student enrollment decisions have been studied for more than two decades. These studies have been based on a wide variety of data, places, periods of time, and methods of analysis.

This section presents first the results of these econometric studies on student enrollment decisions of access and choice. The results of the studies have been taken primarily from a recent review of this literature by Leslie and Brinkman. The second section examines the less studied question of the effect of student financial aid on price-influenced student enrollment behavior.

Student Enrollment Response to Price

Leslie and Brinkman examined about 25 empirical studies of the effects of price on enrollment (1987). The studies, published between 1967 and 1982, used data collected largely between 1959 and 1972 prior to the introduction of the Basic Educational Opportunity Grant Program. Results were presented separately for price impact on aggregate demand (access) and institutional demand (choice). The authors have made a major contribution to understanding this literature through their efforts to standardize findings so that results can be compared.

To compare the measured effects of price on student enrollment behavior across studies, Leslie and Brinkman selected the student price response coefficient (SPRC) from a variety of alternative possible measures. The SPRC is the change in college participation rates among 18-24-year-olds as a result of a $100 higher education price change. They recalculated the results of the 25 student demand studies to correct for different definitions of the higher education market population. Dollar values from all studies were converted to their purchasing power during the 1982-83 academic year. The major findings from the Leslie and Brinkman analysis follow.

First, in all 25 studies increased price of higher education led to decreased enrollments, or decreased prices led to increased enrollments. In all cases, the effect of increased price on aggregate demand for higher education was negative. In direction of effect, the results are consistent.

The second conclusion of the Leslie-Brinkman analysis is that a "$100 tuition price increase appears to be associated with a .6 percentage point decline in the 18-24-year-old participation rate and an enrollment decline of 1.8 percent, ceteris paribus." That is, a real price increase, not offset by financial aid and occurring across all higher education institutions, would yield an enrollment decline of 1.8 percent of the 18-24-year-old population. SPRCs ranged from .2 to 2.4, with a mean of .7 and a mode of .6. Through an examination of the details of each of the studies used in their study, the authors explained the extreme SPRCs reported in the literature, and settled on an SPRC of .6 as the most likely aggregate effect on general populations of 18-24-year olds. Moreover, the studies using national data samples and exercising greatest controls over nonprice influences had the most consistent SPRC results of around .6.

Third, the effects of a $100 price change varied not only in sign but in magnitude by the direction of the change. The enrollment increase effects of a $100 tuition decrease were greater than the enrollment decrease effects of a $100 tuition increase.

Fourth, students at 2-year colleges tended to be more responsive to price than are students overall. The Wisconsin tuition experiment demonstrated this most directly, although controls were relatively weak in this study. Other studies, however, report similar effects. In addition, students in private institutions appear to be the least affected by a $100 tuition increase. Leslie and Brinkman suggest that these effects occur because students in 2-year colleges tend to be poorer and older, and several studies report that these kinds of students are most responsive to price. For students in private institutions, change in price has less effect on enrollment. Leslie and Brinkman suggest that this occurs because students in private institutions tend to be more affluent, and a $100 tuition change is relatively smaller than it would be at a lower cost institution.

Fifth, Leslie and Brinkman found that student enrollment behavior appears to be affected more by tuition price changes than by changes in other attendance costs, such as dormitory room and board charges in studies that included this factor. A more recent study by Manski and Wise, however, finds a different result: direct and indirect costs influence student enrollment behavior equally (1983).

Finally, change in tuition at a single institution would have about three times the enrollment effect at that institution that it would have if applied to all competitive institutions.

The meta-analytical approach used by Leslie and Brinkman unfortunately masks the effects of price on different segments of the potential higher educational population. Further study of the empirical literature reviewed by Leslie and Brinkman, and also of more recently published studies, is necessary to fully understand these effects.

Student Enrollment Response to Financial Aid

Several studies of the effect of price on college student enrollment behavior have extended the study of direct and indirect student charges to net charges or the specific effect of financial aid on student enrollment behavior. These studies present less consistent findings on the effect of financial aid than do those reviewed by Leslie and Brinkman regarding gross price effects mentioned above.

First, financial aid consistently affects student enrollment behavior in the expected direction. However, nearly all of the studies examined by the authors were based on data that preceded the Education Amendments of 1972 when the federal funding and programs were greatly expanded. Thus, those results may be somewhat dated with respect to more recent experience.

Second, Leslie and Brinkman report that "in all cases reviewed, save one, the award of aid had a lesser effect than a tuition change of the same value." Typical of these studies is Jackson's 1978 study that considered the effects of student aid. Jackson concluded that "the mere awarding of aid is far more significant than the amount of aid ..."

However, a 1983 study by Manski and Wise, which appeared after the Leslie-Brinkman meta-analysis was complete, found a different result. When schooling costs were specified in dollars per month divided by family income, financial aid and tuition prices had similar effects on student enrollment behavior.

Third, research results on generally representative populations show that grants have a greater impact on student enrollment decisions than do other forms of student financial aid. The most extensive review of this literature, by Carlson indicated that students from the lowest family incomes experienced greater enrollment response to grants than did students from higher income levels, and these lowest income students also were about twice as responsive to grants as they were to loans and work-study. Middle income students, however, appeared to be more responsive to loans than they were to either grants or work-study assistance (1974).

The studies summarized above have not been reviewed recently from the perspective of financial aid impacts of different types on different kinds of students--an important aspect of the packaging question. Such a study remains to be done and would be most helpful in current public policy considerations of college savings plans, income contingent loans, substitutability of loans for grants for minorities, and assumable levels of student loan indebtedness.

The Public Policy Commitment to Equalize Higher Educational Opportunity

The federal government--and to varying but lesser degrees state governments as well--recognize the differential abilities of students and their families to finance higher educational attendance costs. This recognition takes the form of public policy reflected in financial aid programs targeted at students who apply for and demonstrate financial need to pay their college attendance costs.

Federal Government

Since 1972, the federal government's major policy objective in the finance of higher education has been to equalize educational opportunity for students through needs tested grants. The federal policy of student support is based on a view of student choice as the best guide to institutional responsiveness to the public interest. This became the federal policy with the adoption of the 1972 Education Amendments to the Higher Education Act of 1965. This policy is also enforced through civil rights statutes that prevent discrimination against many classes of citizens. Gladieux and Wolanin, in their political history of the 1972 Amendments to the Higher Education Act of 1965 (1976), concluded the following:

> One theme above all dominates the law and the legislative history. The equalization of opportunities for higher education, a goal historically more incidental than integral to federal involvement in this field, clearly became the central commitment of the federal higher education policy with the passage of the Educational Amendments of 1972.

> As an abstraction, equal opportunity is implicit throughout the bill - in the provisions for community colleges and occupational education, in the state planning provisions, in the institutional aid formula. But operationally, its principal meaning was that lack of money should not be a barrier to an individual's pursuit of education or training beyond high school. Thus the equal opportunity theme is most directly expressed in the student aid provisions, which form the centerpiece of the legislation. Removing the financial barriers facing students was the overriding concern of the legislators, as it had been of the Carnegie Commission and the Rivlin Report.
>
> The law embraces a set of new and old student assistance programs designed to ensure equal access to the postsecondary system and to go far toward ensuring equality of choice among institutions ....
>
> Corollary to the equal opportunity theme, the law enunciates the basic policy choice that students, not institutions, are the first priority in federal support for higher education. The legislators were concerned about institutional well-being and survival, particularly of private schools, but they determined that these concerns should not be the basis of federal policy. Better, they decided, to put purchasing power in the hands of needy students and let the students make their own choices in the marketplace of postsecondary education. This strategy would have the effect of concentrating available federal resources on the students who might otherwise be barred from postsecondary opportunities; it would also, so the reasoning went, serve to make institutions more responsive to the needs and interests of such students.

State Governments

The states have assumed notably different responsibilities from the federal government in the provision of higher educational opportunity. The supply or capacity of higher educational opportunity has been the responsibility of the states--at least since the Morrill Land-Grant College Act of 1862. As student demand for higher education increased, state resources were heavily committed to the expansion of capacity of institutions.

The states fulfilled their obligation to provide spaces for students by expanding existing higher educational institutions and creating new ones. Concurrently but separately, the states expanded their operational subsidies as well. This latter subsidy was directed toward institutions--not students--and had the effect of reducing the price public institutions charged their students to something well below the costs of providing educational services. For 1983-84, tuition revenues in public institutions covered about 18 to 25% of educational costs--depending on level and type of public institution (National Center for Education Statistics).

The states have allocated small but increasing portions of their higher educational funding (Chronicle, 1986) to student financial aid (Reeher & Davis, 1986). The following tables show trends and differences in state funds devoted to student financial aid programs.

TABLE 7

Total State Appropriations for Higher Education and Student Grant Aid 1969-70 to 1986-87 (Dollars in millions)

Year	State Appropriations Higher Education	Financial Aid	Percent for Financial Aid
69-70	$6,201.8	$ 199.9	3.2%
74-75	11,074.8	440.8	4.0
79-80	19,143.1	864.5	4.5
84-85	28,003.6	1,411.4	5.0
85-86	30,747.2	1,523.7	5.0
86-87	32,377.1	1,721.7	5.3

TABLE 8

State Appropriations for Higher Education and Student Grant Aid, 1986-87
(Dollars in thousands)

Rank	State	State Appropriations Higher Education	Financial Aid	Percent for Financial Aid
1	Vermont	$ 46,778	$ 8,437	18.04%
2	New York	2,720,779	457,551	16.82
3	Illinois	1,390,614	147,434	10.60
4	Massachusetts	816,379	83,919	10.28
5	Pennsylvania	1,108,982	104,148	9.39
6	Minnesota	747,187	62,346	8.34
7	New Jersey	898,577	69,711	7.76
8	Rhode Island	117,149	8,412	7.18
9	Iowa	404,610	26,148	6.46
10	Indiana	660,532	41,052	6.21
11	Ohio	1,208,210	72,847	6.03
12	Michigan	1,228,559	71,366	5.81
13	Connecticut	368,648	19,128	5.19
14	Oklahoma	385,552	19,795	5.13
15	Wisconsin	666,525	32,408	4.86
16	Colorado	423,132	19,261	4.55
17	North Carolina	1,172,120	44,950	3.83
18	West Virginia	241,087	8,871	3.68
19	Texas	2,141,392	78,556	3.67
20	Utah	257,249	9,135	3.55
21	South Carolina	520,248	17,796	3.42
22	Oregon	335,998	10,729	3.19
23	California	4,562,651	134,625	2.95
24	Florida	1,277,704	35,516	2.78
25	Kentucky	468,955	12,233	2.61
26	Georgia	714,004	18,537	2.60
27	New Hampshire	55,961	1,423	2.54
28	Tennessee	608,083	13,787	2.27
29	Missouri	476,420	10,291	2.16
30	Virginia	901,452	19,133	2.12
31	Arkansas	273,182	5,703	2.09
32	Alabama	556,894	9,936	1.78
33	Washington	609,937	10,665	1.75
34	Maryland	569,975	9,856	1.73
35	Maine	125,216	2,132	1.70
36	Kansas	350,735	5,430	1.55
37	Delaware	96,797	1,321	1.36
38	Hawaii	220,845	2,597	1.18
39	Alaska	207,086	2,075	1.00
40	South Dakota	73,223	620	.85
41	Mississippi	327,353	2,055	.63
41	New Mexico	233,552	1,461	.63
43	North Dakota	124,430	748	.60
44	Arizona	480,076	2,475	.52
45	Nebraska	217,355	1,093	.50
46	Idaho	126,030	610	.48
47	Louisiana	541,722	2,295	.42
48	Nevada	102,419	414	.40
49	Montana	103,167	401	.39
50	Wyoming	111,583	240	.22
	TOTALS	$32,377,114	$1,721,672	5.32%

Society's Interest in Improving Educational Opportunity

There are two general public interest reasons why society supports student financial aid and the access to higher educational opportunities that aid provides. These reasons, which differ from the student demand factors reviewed earlier in this paper, pertain to society's interest in renewing the human capital of the labor force and to preserving social stability.

Labor Force Renewal

As economic systems evolve, human capital plays an increasingly important role in the generation of wealth and prosperity. Human capital refers to the productive potential of the labor force, in particular the mental and physical potential of individuals to perform socially valuable labor. Clearly, individuals without skills or knowledge that are valuable to employers are less productive than individuals who have them. Similarly, individuals limited by poor health cannot be as valuable to employers as are individuals who are normally healthy.

The economic prosperity of society is derived differently at different stages of economic development. These stages differ in their reliance on human capital. In the primary stage of economic development, wealth is generated through exploitation of natural resources: agriculture, mining, forestry, and commercial fisheries are examples. In secondary economic development, wealth is generated by the return on physical capital investments: manufacturing typically produces wealth at this stage. In tertiary economic development, wealth is produced by human capital, and that productive potential is dependent on the development of the physical and intellectual potential of the labor force.

In the United States, manufacturing replaced agriculture as the dominant form of economic activity in the nineteenth century. In the twentieth century, manufacturing, in turn, has been replaced by intensive economic activity tied to human resources. Since the end of World War II, the parts of the economy that have expanded are those most heavily dependent on healthy, highly educated manpower. This trend appear to be accelerating in the 1980s.

In the dynamic processes of economic evolution, the productivity of the labor force is dependent upon its continuous renewal. Under the inevitable progression of time, the labor force ages. Some workers retire, or die, or can no longer find a place to work. Others are added where openings occur, either through vacancy or creation of new jobs.

Currently, the wealth-generating capacity of our labor force is being tested by two changes occurring in the nation's demography. First, the declining birthrate since the late 1950s will eventually produce a smaller pool of potential labor force members. This decline in the numbers of people available for the work force has already been factored into long-range economic forecasts for the American economy. We will be poorer as a country first because there will be fewer potential workers available to produce wealth.

In addition to this virtually certain quantitative deterioration in our human capital stock, we also face a potential qualitative loss. Gradually,

the better educated white majority of the labor force is being replaced by less well educated minorities. These minorities--especially blacks, Hispanics and American Indians--do not currently have the human capital investments to replace, one for one, the aging white majority. The substitution of lesser capitalized workers for better capitalized workers will result in declining labor force productivity during a period of economic development increasingly dependent on a well capitalized labor force.

TABLE 9

Distribution of U.S. Population by Age and Race/Ethnicity
1985

Age Range	White	Black	Hispanic	Other
0 to 4	71.1%	15.0%	10.0%	3.9%
5 to 9	70.8	15.4	10.2	3.6
10 to 14	71.3	15.5	9.6	3.6
15 to 19	73.5	14.9	8.4	3.2
20 to 24	75.0	13.6	8.3	3.1
25 to 29	76.4	12.7	7.7	3.2
30 to 34	77.7	11.9	6.9	3.5
35 to 39	79.5	10.7	6.5	3.3
40 to 44	79.5	10.3	7.0	3.2
45 to 49	79.7	10.8	6.5	3.0
50 to 54	81.4	10.5	5.5	2.6
55 to 59	82.9	9.7	5.2	2.2
60 to 64	85.1	8.9	4.1	1.9
65 & over	87.3	8.2	2.9	1.6

Thus, while the labor force requires both quantitative and qualitative enhancements to ensure the continued prosperity of the United States, the human capital base is deteriorating in both dimensions. The U.S. can do little now about the quantitative loss of human capital; it still takes several decades to produce a member of the labor force (unless the immigration doors are opened wider). But public policy can improve the productive potential of the labor force by improving the physical and intellectual capital of the available population.

Put most directly, unless public policy addresses the extraordinary human capitalization requirements imposed by these demographic trends, we will be poorer as a nation than we would have been had we better capitalized the available human resources.

Preservation of Social Peace Through Hope

Student financial aid is a social program, created in response to a social problem deemed worthy of governmental attention. Social programs, as such, emerge at times and in places and ways that reflect conditions that are unsatisfactory with respect to a collectively defined standard. To the extent that Americans view their system as a land of opportunity for the talented and ambitious, the era of civil rights agitation in the 1950s and 1960s revealed conditions for many American citizens that were well short of that ideal. In response, President Kennedy proposed an aggressive series of social programs that later, under President Johnson, became known as the War on Poverty (Eidenberg & Morey, 1969). These programs were designed to redress the difference between those ideals and the reality of identified conditions.

The War on Poverty was a platform of social policy directed toward the reduction of poverty in the United States. The platform consisted of three planks: the improvement in the human capital of the poor, through programs of health and education, to make the poor more valuable to potential employers in the labor force; the elimination of irrelevant discriminatory barriers to jobs in the labor force through civil rights legislation; and the stimulation of the economy to create more jobs so that when the better capitalized poor were prepared to enter the labor force, the jobs would be there.

The planks of the platform of the War on Poverty became public policy through the enactment of legislation. During a relatively brief period in the mid-1960s, the War on Poverty became operational through the enactment of such pieces of legislation as the Civil Rights Act of 1964 and the Elementary and Secondary Education Act and the Higher Education Act of 1965. Equality of opportunity became a central policy theme evident in the social legislation of the period.

The Higher Education Act inaugurated the federal government's commitment to needs-tested student financial aid. This Act recharted the federal involvement in student aid programs. Previously, aid had been targeted on veterans of military service, or to encourage the study of certain subjects deemed to be important to the nation. Now, however, grants were to be directed toward expansion of higher education specifically for financially needy students.

The 1965 Higher Education Act, and its subsequent amendments and reauthorizations currently in law, must be recalled and considered in the context of the conditions of inequality that produced first social unrest, then the proposals for changes in social policy, and finally the enactments of legislation that charted the policy course that constituted the political response to the original condition. The following evaluation of the equity aims is considered in this light.

Since 1970, the demographic, economic and political processes that create and distribute wealth have produced widening disparity between the affluent and the poor. The growth in this disparity is shown in Table 10. Since 1970 the number of families below 75% and above 125% of the median family income has increased. As a result, the proportion of families in the 75 to 125 percent-of-median range--a frequently used measure of middle income--has dropped from 32.8% in 1970 to 26.4% today.

TABLE 10

Distribution of U.S. Families by Incomes
1950-1986

Family Income	1950	1955	1960	1965	1970	1975	1980	1985	1986
Below 75% of median	33.6%	34.7%	34.3%	33.7%	33.5%	34.5%	35.2%	35.7%	36.2%
75% to 125% of median	28.5	29.5	30.3	30.9	32.8	29.1	28.0	26.6	26.4
Above 125% of median	37.9	35.8	35.4	35.4	33.7	36.4	36.8	37.7	37.4

Table 11 adds sharper focus to the poverty problem in the U.S. (Census Bureau, annual). This table reflects the distribution of poverty among individuals and children by racial/ethnic category over the last 25 years. Poverty is clearly a greater problem among blacks and Hispanics than it is among whites. It is also more a problem for children than it is for adults, regardless of race.

TABLE 11

U.S. Population and Children in Poverty by Race/Ethnic Categories
1959-1986

	1959	1965	1970	1975	1980	1984	1986
Individuals							
Below poverty line (millions)	39.5	33.2	25.4	25.9	29.3	33.7	32.4
Whites in poverty	18.1%	13.3%	9.9%	9.7%	10.2%	11.5%	11.0%
Blacks in poverty	55.1	41.8*	33.5	31.3	32.5	33.8	31.1
Hispanics in poverty				26.9	25.7	28.4	27.3
Children							
All children in poverty	26.9%	20.7%	14.9%	16.8%	17.9%	21.0%	19.8%
White children in poverty	20.6	14.4	10.5	12.5	13.4	16.1	15.3
Black children in poverty	65.5	50.6*	41.5	41.4	42.1	46.2	42.7
Hispanic children in poverty				33.1	33.0	38.7	37.1

*1966 data

Finally, with respect to the equity objective of student financial aid, some assessment of the status of equity of higher educational opportunity will help reveal problems that remain to be addressed. The equity issue, which has been a part of the public policy debate in higher education during the last two decades, has focused primarily on the status of higher educational access for two groups--women and minorities.

During the years from 1959 through 1969, the rate at which women entered college following high school averaged 14% lower than for men. Between 1970 and 1975, however, this access gap rapidly closed. Over the next 11 years, women high school graduates enrolled in college at rates roughly identical to those for men (Cohany, annual). Equity of higher educational opportunity had been achieved. The data in Table 12 generally support this conclusion. (It should be noted that for the last four years, especially in the 1986 data, Table 12 also shows deteriation in the participation of women high school graduation in college compared to men. Because of the sampling process by which these data were collected, neither the explanation nor the statistical significance of this development is yet clear.)

TABLE 12

College Entrance Rates for Recent High School Graduates by Gender
1959-1986
(Numbers in thousands)

Year	Total High School Graduates			Number Enrolled in College			College Entrance Rates			Women Difference from Men
	Men	Women	Total	Men	Women	Total	Men	Women	Total	
1959	664	791	1,455	360	305	665	54.2%	38.6%	45.7%	-15.6%
1960	756	923	1,679	408	350	758	54.0	37.9	45.1	-16.1
1961	790	973	1,763	445	402	847	56.3	41.3	48.0	-15.0
1962	872	966	1,838	480	420	900	55.0	43.5	49.0	-11.5
1963	794	947	1,741	415	369	784	52.3	39.0	45.0	-13.3
1964	997	1,148	2,145	570	467	1,037	57.2	40.7	48.3	-16.5
1965	1,254	1,405	2,659	718	636	1,354	57.3	45.3	50.9	-12.0
1966	1,207	1,405	2,612	709	600	1,309	58.7	42.7	50.1	-16.0
1967	1,142	1,383	2,525	658	653	1,311	57.6	47.2	51.9	-10.4
1968	1,184	1,422	2,606	748	696	1,444	63.2	48.9	55.4	-14.3
1969	1,352	1,490	2,842	812	704	1,516	60.1	47.2	53.3	-12.9
1970	1,343	1,414	2,757	741	686	1,427	55.2	48.5	51.8	-6.7
1971	1,369	1,503	2,872	788	747	1,535	57.6	49.7	53.4	-7.9
1972	1,420	1,541	2,961	749	708	1,457	52.7	45.9	49.2	-6.8
1973	1,458	1,601	3,059	730	695	1,425	50.1	43.4	46.6	-6.7
1974	1,491	1,610	3,101	736	738	1,474	49.4	45.8	47.5	-3.6
1975	1,513	1,673	3,186	796	819	1,615	52.6	49.0	50.7	-3.6
1976	1,450	1,537	2,987	685	773	1,458	47.2	50.3	48.8	3.1
1977	1,482	1,658	3,140	773	817	1,590	52.2	49.3	50.6	-2.9
1978	1,485	1,676	3,161	758	826	1,584	51.0	49.3	50.1	-1.7
1979	1,474	1,686	3,160	743	816	1,559	50.4	48.4	49.3	-2.0
1980	1,500	1,589	3,089	701	823	1,524	46.7	51.8	49.3	5.1
1981	1,490	1,563	3,053	816	830	1,646	54.8	53.1	53.9	-1.7
1982	1,508	1,592	3,100	739	829	1,568	49.0	52.1	50.6	3.1
1983	1,390	1,574	2,964	721	841	1,562	51.9	53.4	52.7	1.5
1984	1,429	1,583	3,012	800	862	1,662	56.0	54.5	55.2	-1.5
1985	1,286	1,380	2,666	754	785	1,539	58.6	56.9	57.7	-1.7
1986	1,331	1,455	2,786	744	755	1,499	55.9	51.9	53.8	-4.0

The success of women in achieving and sustaining parity in access to higher education contrasts sharply with the experience of racial/ethnic minorities during the same period. As Table 13 shows, during the 1960s the nonwhite college entrance rate for recent high school graduates averaged about 13% below the rate for whites. This gap closed rapidly during the first half of the 1970s, and was effectively closed during the second half of the 1970s. By 1980, however, the access gap was reappearing. For the 4-year period from 1983 to 1986, the difference between the white and nonwhite

college entrance rates for recent high school graduates was actually somewhat greater--13.6%--than it had been during the 1960s. Table 13 also shows that the access gap is somewhat greater for blacks than for Hispanics (Cohany, annual).

TABLE 13

College Entrance Rates for Recent High School Graduates by Race/Ethnicity
1960-1986
(Numbers in thousands)

	Total High School Graduates					Number Enrolled in College					College Entrance Rates					Non-W
Year	White	Non-White	Black	Hisp	Total	White	Non-White	Black	Hisp	Total	White	Non-White	Black	Hisp	Total	Less White
1960	1,565	114			1,679	717	41			758	45.8%	36.0%			45.1	- 9.8%
1961	1,612	151			1,763	798	49			847	49.5	32.5			48.0	-17.0
1962	1,660	178			1,838	840	60			900	50.6	33.7			49.0	-16.9
1963	1,615	126			1,741	736	48			784	45.6	38.1			45.0	- 7.5
1964	1,964	181			2,145	967	70			1,037	49.2	38.7			48.3	-10.5
1965	2,417	242			2,659	1,249	105			1,354	51.7	43.4			50.9	- 8.3
1966	2,403	209			2,612	1,243	66			1,309	51.7	31.6			50.1	-20.1
1967	2,267	258			2,525	1,202	108			1,311	53.0	41.9			51.9	-11.1
1968	2,303	303			2,606	1,304	140			1,444	56.6	46.2			55.4	-10.4
1969	2,538	304			2,842	1,402	114			1,516	55.2	37.5			53.3	-17.7
1970	2,461	296			2,757	1,280	142			1,422	52.0	48.0			51.6	- 4.0
1971	2,596	276			2,872	1,402	130			1,532	54.0	47.1			53.3	- 6.9
1972	2,614	347			2,961	1,292	165			1,457	49.4	47.6			49.2	- 1.8
1973	2,707	352			3,059	1,302	123			1,425	48.1	34.9			46.6	-13.2
1974	2,736	367			3,101	1,288	187			1,475	47.1	51.0			47.5	+ 3.9
1975	2,825	366			3,191	1,446	167			1,613	51.2	45.6			50.5	- 5.6
1976	2,640	347	320	152	2,987	1,291	167	134	80	1,458	48.9	48.1	41.9	52.6	48.9	- .8
1977	2,768	372	335	156	3,140	1,403	187	166	80	1,590	50.7	50.3	49.6	51.3	50.6	- .4
1978	2,750	411	352	133	3,161	1,378	206	161	57	1,584	50.1	50.1	45.7	42.9	50.1	0
1979	2,776	384	324	154	3,160	1,376	183	147	69	1,559	49.6	47.7	45.4	44.8	49.3	- 1.9
1980	2,682	407	361	129	3,089	1,339	185	151	68	1,524	49.9	45.5	41.8	52.7	49.3	- 4.4
1981	2,626	427	359	146	3,053	1,434	212	154	76	1,646	54.6	49.6	42.9	52.1	53.9	- 5.0
1982	2,644	456	384	174	3,100	1,376	192	140	75	1,568	52.0	42.1	36.5	43.1	50.6	- 9.9
1983	2,496	468	392	138	2,964	1,372	190	151	75	1,562	55.0	40.6	38.5	54.3	52.7	-14.4
1984	2,514	498	438	185	3,012	1,455	207	176	82	1,662	57.9	41.6	40.2	44.3	55.2	-16.3
1985	2,241	425	333	141	2,666	1,332	207	141	72	1,539	59.4	48.7	42.3	51.1	57.7	-10.7
1986	2,307	479	386	169	2,786	1,292	207	141	75	1,499	56.0	43.2	36.5	44.4	53.8	-12.8

Conclusion

The reasons why student financial aid exists may be self-evident to some and unclear to others. This paper has offered evidence to support the argument that financial aid is a worthwhile use of public monies.

More than $20 billion are spent on financial aid programs for students each year. Additionally, more than $40 billion are spent to subsidize their educations through subsidies to the colleges where they are enrolled. We do so because we view higher education as a socially necessary activity. The result is the enrollment of about 12 million Americans in our public and private colleges and universities.

Evidence presented in this paper supports the view that higher education is essential to current and future prosperity of both individuals and the larger society. The signals from the labor market tell us our labor force is currently oversupplied with workers who have less than a college education, and undersupplied by workers who have college degrees. The imbalance between the needs of the labor force and economy, and the performance of the higher educational system in meeting these needs appears to be getting worse in the mid-1980s.

Student financial aid, as viewed since 1965, addresses simultaneously two social issues. The first is fulfillment of the aspirations of citizens who wish to climb the ladder of opportunity, view higher education as their means to that advancement, and require assistance to help finance the costs of college enrollment. Needs-tested subsidies directed to students were chosen by Congress in the 1972 Amendments to the Higher Education Act of 1965 as the most efficient means of fulfilling these aspirations. The second issue is the extraordinary human capitalization requirements of the evolving world economy and the role of the United States in that system. The demographics of the U. S. population show a gradual replacement of better capitalized whites by less well capitalized minorities. At the same time, the labor market indicates that unsatisfied demand exists mainly for college educated workers. This unsatisfied labor market need must be increasingly met through the higher education of individuals who are dependent on financial aid to be able to attend college.

Available evidence suggests that financial aid as presently designed and funded has failed to meet these social issues during the 1980s. The achievements of the 1970s have been largely lost during the 1980s. Once again, as in 1965 and 1972, it is the right time to ask: Why Student Financial Aid?

REFERENCES

American College Testing Program. Unpublished college budget data compiled from ACT's annual Budget and Service Questionnaire. Iowa City, IA: Author.

American College Testing Program. (1986). Unpublished data prepared for the U.S. Department of Education. Iowa City, IA: Author.

Astin, A. W., Green, K. C., Korn, W. S., & Schalit, M. (Annual). The American college freshman: National norms for fall 19XX. Los Angeles: Cooperative Institutional Research Program, UCLA.

Carlson, D. (1974). Student price response coefficients for grants, loans, work-study aid, and tuition changes, and analysis of student surveys. Davis, CA: University of California, Department of Agricultural Economics.

Census Bureau. (Annual). Current population reports (Series P-60). Washington, DC: Department of Commerce.

Census Bureau. (1987). Statistical abstract of the United States. Washington, DC: Department of Commerce.

Chronicle of Higher Education, 1986, October 29, pp. 20-22, and prior years.

Cohany, S. R. (Annual, and unpublished data). Data from the October Current Population Survey. Washington, D.C: Bureau of Labor Statistics, Department of Labor.

College Board. (1987). Update from Washington, D.C. Washington, DC: Author.

Eidenberg, E., & Morey, R. D. (1969). An act of Congress, the legislative process and the making of education policy. New York: Norton.

Gladieux, L. E. & Wolanin, T. R. (1976) Congress and the colleges, the national politics of higher education. Lexington, MA: Lexington.

Grant, W. V., & Snyder, T. D. (1986). Digest of education statistics, 1985-86. Washington, DC: National Center for Education Statistics, Department of Education.

Leslie, L. L. & Brinkman, P. T. (1987). Student price response in higher education, the student demand studies. Journal of Higher Education, 58, 183.

Manski, C. F. & Wise, D. A. (1983). College choice in America. Cambridge: Harvard.

National Center for Education Statistics. (Unpublished data.) Higher Education General Information Survey, Financial Statistics of Institutions of Higher Education. Washington, DC: Department of Education.

Reeher, K. R. & Davis, J. S. (Annual) 18th annual survey report, 1986-87 Academic Year. Harrisburg, PA: National Association of State Scholarship and Grant Programs.